



**Miller**<sup>®</sup>

OM-1500-17

218022A

January 2004

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**Processes**

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MIG (GMAW) Welding

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**Description**

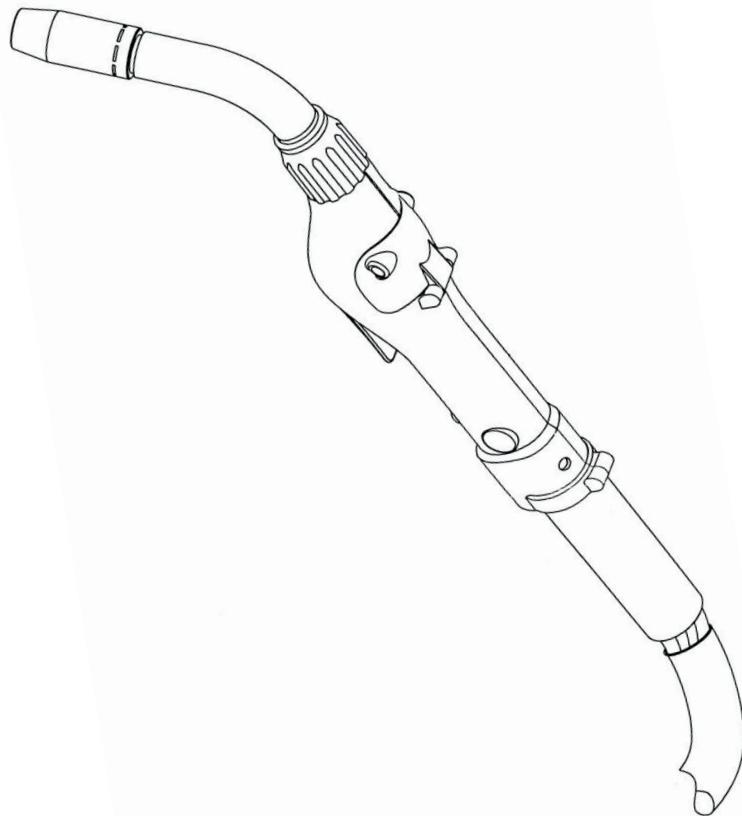
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Semi Automatic, Air Cooled, MIG (GMAW)  
Welding Gun

## **XR™ Python® 25 Ft.**

CE



**200 Ampere Push-Pull Welding Gun**



Visit our website at  
[www.MillerWelds.com](http://www.MillerWelds.com)

**OWNER'S MANUAL**

# From Miller to You

*Thank you and congratulations* on choosing Miller. Now you can get the job done and get it done right. We know you don't have time to do it any other way.

That's why when Niels Miller first started building arc welders in 1929, he made sure his products offered long-lasting value and superior quality. Like you, his customers couldn't afford anything less. Miller products had to be more than the best they could be. They had to be the best you could buy.

Today, the people that build and sell Miller products continue the tradition. They're just as committed to providing equipment and service that meets the high standards of quality and value established in 1929.

This Owner's Manual is designed to help you get the most out of your Miller products. Please take time to read the Safety precautions. They will help you protect yourself against potential hazards on the worksite.



Miller is the first welding equipment manufacturer in the U.S.A. to be registered to the ISO 9001:2000 Quality System Standard.

We've made installation and operation quick and easy. With Miller you can count on years of reliable service with proper maintenance. And if for some reason the unit needs repair, there's a Troubleshooting section that will help you figure out what the problem is. The parts list will then help you to decide the exact part you may need to fix the problem. Warranty and service information for your particular model are also provided.

*Miller offers a Technical Manual which provides more detailed service and parts information for your unit. To obtain a Technical Manual, contact your local distributor. Your distributor can also supply you with Welding Process Manuals such as SMAW, GTAW, GMAW, and GMAW-P.*

Miller Electric manufactures a full line of welders and welding related equipment. For information on other quality Miller products, contact your local Miller distributor to receive the latest full line catalog or individual catalog sheets. **To locate your nearest distributor or service agency call 1-800-4-A-Miller, or visit us at [www.MillerWelds.com](http://www.MillerWelds.com) on the web.**



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# *Declaration of Conformity for European Community (CE) Products*

**Note**  This information is provided for units with CE certification (see rating label on unit).

*Manufacturer's Name:* **MK Products, Inc.**

*Manufacturer's Address:* 16882 Armstrong Ave.  
Irvine, CA 92606

*Declares that the product:* **Python®**

*conforms to the following Directives and Standards:*

## **Directives**

Low Voltage Directive: 73/23/EEC

Electromagnetic Compatibility (EMC) Directive: 89/336/EEC

## **Standards**

Arc Welding Equipment Part I: Welding Power Sources: IEC 60974-1  
(September 1998 – Second Edition)

Arc Welding Equipment: Wirefeed Systems: IEC 974-5  
(September 1997 – Draft Revision)

Degrees of Protection Provided By Enclosures (IP Code): IEC 529:1989  
(November 1989 - First Edition)

Insulation Coordination For Equipment With Low-Voltage Systems:  
Part I: Principles, Requirements and Tests: IEC 664-1: 1992  
(October 1992 – First Edition)

Electromagnetic Compatibility, (EMC): EN 50199  
(August 1995)

Torches And Guns For Arc Welding, EN 50078

# SECTION 1 – SAFETY PRECAUTIONS - READ BEFORE USING

som\_nd\_7/02

## 1-1. Symbol Usage



Means Warning! Watch Out! There are possible hazards with this procedure! The possible hazards are shown in the adjoining symbols.

• Marks a special safety message.

• Means "Note", not safety related.



This group of symbols means Warning! Watch Out! possible ELECTRIC SHOCK, MOVING PARTS, and HOT PARTS hazards. Consult symbols and related instructions below for necessary actions to avoid the hazards.

## 1-2. Arc Welding Hazards

The symbols shown below are used throughout this manual to call attention to and identify possible hazards. When you see the symbol, watch out, and follow the related instructions to avoid the hazard. The safety information given below is only a summary of the more complete safety information found in the Safety Standards listed in Section 1-4. Read and follow all Safety Standards.

Only qualified persons should install, operate, maintain, and repair this unit.

During operation, keep everybody, especially children, away.



### ELECTRIC SHOCK can kill.

Touching live electrical parts can cause fatal shocks or severe burns. The electrode and work circuit is electrically live whenever the output is on. The input power circuit and machine internal circuits are also live when power is on. In semiautomatic or automatic wire welding, the wire, wire reel, drive roll housing, and all metal parts touching the welding wire are electrically live. Incorrectly installed or improperly grounded equipment is a hazard.

Do not touch live electrical parts.

Wear dry, hole-free insulating gloves and body protection.

Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.

Do not use AC output in damp areas, if movement is confined, or if there is a danger of falling.

Use AC output ONLY if required for the welding process.

If AC output is required, use remote output control if present on unit.

Disconnect input power or stop engine before installing or servicing this equipment. Lockout/tagout input power according to OSHA 29 CFR 1910.147 (see Safety Standards).

Properly install and ground this equipment according to its Owner's Manual and national, state, and local codes.

Always verify the supply ground – check and be sure that input power cord ground wire is properly connected to ground terminal in disconnect box or that cord plug is connected to a properly grounded receptacle outlet.

When making input connections, attach proper grounding conductor first – double-check connections.

Frequently inspect input power cord for damage or bare wiring – replace cord immediately if damaged – bare wiring can kill.

Turn off all equipment when not in use.

Do not use worn, damaged, undersized, or poorly spliced cables.

Do not drape cables over your body.

If earth grounding of the workpiece is required, ground it directly with a separate cable.

Do not touch electrode if you are in contact with the work, ground, or another electrode from a different machine.

Use only well-maintained equipment. Repair or replace damaged parts at once. Maintain unit according to manual.

Wear a safety harness if working above floor level.

Keep all panels and covers securely in place.

Clamp work cable with good metal-to-metal contact to workpiece or worktable as near the weld as practical.

Insulate work clamp when not connected to workpiece to prevent contact with any metal object.

Do not connect more than one electrode or work cable to any single weld output terminal.

### SIGNIFICANT DC VOLTAGE exists after removal of input power on inverters.

Turn Off inverter, disconnect input power, and discharge input capacitors according to instructions in Maintenance Section before touching any parts.



### FUMES AND GASES can be hazardous.

Welding produces fumes and gases. Breathing these fumes and gases can be hazardous to your health.

Keep your head out of the fumes. Do not breathe the fumes.

If inside, ventilate the area and/or use exhaust at the arc to remove welding fumes and gases.

If ventilation is poor, use an approved air-supplied respirator.

Read the Material Safety Data Sheets (MSDSs) and the manufacturer's instructions for metals, consumables, coatings, cleaners, and degreasers.

Work in a confined space only if it is well ventilated, or while wearing an air-supplied respirator. Always have a trained watchperson nearby. Welding fumes and gases can displace air and lower the oxygen level causing injury or death. Be sure the breathing air is safe.

Do not weld in locations near degreasing, cleaning, or spraying operations. The heat and rays of the arc can react with vapors to form highly toxic and irritating gases.

Do not weld on coated metals, such as galvanized, lead, or cadmium plated steel, unless the coating is removed from the weld area, the area is well ventilated, and if necessary, while wearing an air-supplied respirator. The coatings and any metals containing these elements can give off toxic fumes if welded.



### ARC RAYS can burn eyes and skin.

Arc rays from the welding process produce intense visible and invisible (ultraviolet and infrared) rays that can burn eyes and skin. Sparks fly off from the weld.

- Wear a welding helmet fitted with a proper shade of filter to protect your face and eyes when welding or watching (see ANSI Z49.1 and Z87.1 listed in Safety Standards).
- Wear approved safety glasses with side shields under your helmet.
- Use protective screens or barriers to protect others from flash and glare; warn others not to watch the arc.
- Wear protective clothing made from durable, flame-resistant material (leather and wool) and foot protection.

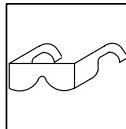


### WELDING can cause fire or explosion.

Welding on closed containers, such as tanks, drums, or pipes, can cause them to blow up. Sparks can fly off from the welding arc. The flying sparks, hot workpiece, and hot equipment can cause fires and burns. Accidental contact of electrode to metal objects can cause sparks, explosion, overheating, or fire. Check and be sure the area is safe before doing any welding.

- Protect yourself and others from flying sparks and hot metal.
- Do not weld where flying sparks can strike flammable material.
- Remove all flammables within 35 ft (10.7 m) of the welding arc. If this is not possible, tightly cover them with approved covers.
- Be alert that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas.
- Watch for fire, and keep a fire extinguisher nearby.
- Be aware that welding on a ceiling, floor, bulkhead, or partition can cause fire on the hidden side.
- Do not weld on closed containers such as tanks, drums, or pipes, unless they are properly prepared according to AWS F4.1 (see Safety Standards).
- Connect work cable to the work as close to the welding area as practical to prevent welding current from traveling long, possibly unknown paths and causing electric shock and fire hazards.
- Do not use welder to thaw frozen pipes.
- Remove stick electrode from holder or cut off welding wire at contact tip when not in use.
- Wear oil-free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes, and a cap.
- Remove any combustibles, such as a butane lighter or matches, from your person before doing any welding.

### FLYING METAL can injure eyes.



Welding, chipping, wire brushing, and grinding cause sparks and flying metal. As welds cool, they can throw off slag.

Wear approved safety glasses with side shields even under your welding helmet.



### BUILDUP OF GAS can injure or kill.

Shut off shielding gas supply when not in use.  
Always ventilate confined spaces or use approved air-supplied respirator.



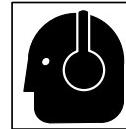
### HOT PARTS can cause severe burns.

Do not touch hot parts bare handed.  
Allow cooling period before working on gun or torch.



### MAGNETIC FIELDS can affect pacemakers.

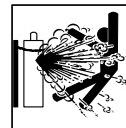
Pacemaker wearers keep away.  
Wearers should consult their doctor before going near arc welding, gouging, or spot welding operations.



### NOISE can damage hearing.

Noise from some processes or equipment can damage hearing.

Wear approved ear protection if noise level is high.



### CYLINDERS can explode if damaged.

Shielding gas cylinders contain gas under high pressure. If damaged, a cylinder can explode. Since gas cylinders are normally part of the welding process, be sure to treat them carefully.

- Protect compressed gas cylinders from excessive heat, mechanical shocks, slag, open flames, sparks, and arcs.
- Install cylinders in an upright position by securing to a stationary support or cylinder rack to prevent falling or tipping.
- Keep cylinders away from any welding or other electrical circuits.
- Never drape a welding torch over a gas cylinder.
- Never allow a welding electrode to touch any cylinder.
- Never weld on a pressurized cylinder – explosion will result.
- Use only correct shielding gas cylinders, regulators, hoses, and fittings designed for the specific application; maintain them and associated parts in good condition.
- Turn face away from valve outlet when opening cylinder valve.
- Keep protective cap in place over valve except when cylinder is in use or connected for use.
- Read and follow instructions on compressed gas cylinders, associated equipment, and CGA publication P-1 listed in Safety Standards.

### 1-3. Additional Symbols For Installation, Operation, And Maintenance



#### FIRE OR EXPLOSION hazard.

- Do not install or place unit on, over, or near combustible surfaces.
- Do not install unit near flammables.
- Do not overload building wiring – be sure power supply system is properly sized, rated, and protected to handle this unit.



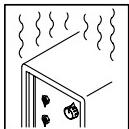
#### MOVING PARTS can cause injury.

- Keep away from moving parts such as fans.
- Keep all doors, panels, covers, and guards closed and securely in place.



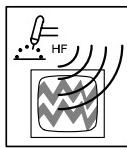
#### FALLING UNIT can cause injury.

- Use lifting eye to lift unit only, NOT running gear, gas cylinders, or any other accessories.
- Use equipment of adequate capacity to lift and support unit.
- If using lift forks to move unit, be sure forks are long enough to extend beyond opposite side of unit.



#### OVERUSE can cause OVERHEATING

- Allow cooling period; follow rated duty cycle.
- Reduce current or reduce duty cycle before starting to weld again.
- Do not block or filter airflow to unit.



#### H.F. RADIATION can cause interference.

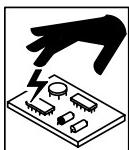
- High-frequency (H.F.) can interfere with radio navigation, safety services, computers, and communications equipment.
- Have only qualified persons familiar with electronic equipment perform this installation.

The user is responsible for having a qualified electrician promptly correct any interference problem resulting from the installation.

If notified by the FCC about interference, stop using the equipment at once.

Have the installation regularly checked and maintained.

Keep high-frequency source doors and panels tightly shut, keep spark gaps at correct setting, and use grounding and shielding to minimize the possibility of interference.



#### STATIC (ESD) can damage PC boards.

- Put on grounded wrist strap BEFORE handling boards or parts.
- Use proper static-proof bags and boxes to store, move, or ship PC boards.



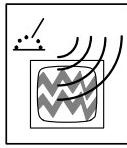
#### MOVING PARTS can cause injury.

- Keep away from moving parts.
- Keep away from pinch points such as drive rolls.



#### WELDING WIRE can cause injury.

- Do not press gun trigger until instructed to do so.
- Do not point gun toward any part of the body, other people, or any metal when threading welding wire.



#### ARC WELDING can cause interference.

- Electromagnetic energy can interfere with sensitive electronic equipment such as computers and computer-driven equipment such as robots.

Be sure all equipment in the welding area is electromagnetically compatible.

To reduce possible interference, keep weld cables as short as possible, close together, and down low, such as on the floor.

Locate welding operation 100 meters from any sensitive electronic equipment.

Be sure this welding machine is installed and grounded according to this manual.

If interference still occurs, the user must take extra measures such as moving the welding machine, using shielded cables, using line filters, or shielding the work area.

## 1-4. Principal Safety Standards

*Safety in Welding, Cutting, and Allied Processes*, ANSI Standard Z49.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami FL 33126 (phone: 305-443-9353, website: [www.aws.org](http://www.aws.org)).

*Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping*, American Welding Society Standard AWS F4.1, from American Welding Society, 550 N.W. LeJeune Rd, Miami, FL 33126 (phone: 305-443-9353, website: [www.aws.org](http://www.aws.org)).

*National Electrical Code*, NFPA Standard 70, from National Fire Protection Association, P.O. Box 9101, 1 Battery March Park, Quincy, MA 02269-9101 (phone: 617-770-3000, website: [www.nfpa.org](http://www.nfpa.org) and [www.sparky.org](http://www.sparky.org)).

*Safe Handling of Compressed Gases in Cylinders*, CGA Pamphlet P-1, from Compressed Gas Association, 1735 Jefferson Davis Highway, Suite 1004, Arlington, VA 22202-4102 (phone: 703-412-0900, website: [www.cganet.com](http://www.cganet.com)).

*Code for Safety in Welding and Cutting*, CSA Standard W117.2, from Canadian Standards Association, Standards Sales, 178 Rexdale Boulevard, Rexdale, Ontario, Canada M9W 1R3 (phone: 800-463-6727 or in Toronto 416-747-4044, website: [www.csa-international.org](http://www.csa-international.org)).

*Practice For Occupational And Educational Eye And Face Protection*, ANSI Standard Z87.1, from American National Standards Institute, 11 West 42nd Street, New York, NY 10036-8002 (phone: 212-642-4900, website: [www.ansi.org](http://www.ansi.org)).

*Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, NFPA Standard 51B, from National Fire Protection Association, P.O. Box 9101, 1 Battery March Park, Quincy, MA 02269-9101 (phone: 617-770-3000, website: [www.nfpa.org](http://www.nfpa.org) and [www.sparky.org](http://www.sparky.org)).

OSHA, Occupational Safety and Health Standards for General Industry, Title 29, Code of Federal Regulations (CFR), Part 1910, Subpart Q, and Part 1926, Subpart J, from U.S. Government Printing Office, Superintendent of Documents, P.O. Box 371954, Pittsburgh, PA 15250 (there are 10 Regional Offices—phone for Region 5, Chicago, is 312-353-2220, website: [www.osha.gov](http://www.osha.gov)).

## 1-5. EMF Information

**Considerations About Welding And The Effects Of Low Frequency Electric And Magnetic Fields**

Welding current, as it flows through welding cables, will cause electromagnetic fields. There has been and still is some concern about such fields. However, after examining more than 500 studies spanning 17 years of research, a special blue ribbon committee of the National Research Council concluded that: "The body of evidence, in the committee's judgment, has not demonstrated that exposure to power-frequency electric and magnetic fields is a human-health hazard." However, studies are still going forth and evidence continues to be examined. Until the final conclusions of the research are reached, you may wish to minimize your exposure to electromagnetic fields when welding or cutting.

To reduce magnetic fields in the workplace, use the following procedures:

1. Keep cables close together by twisting or taping them.
2. Arrange cables to one side and away from the operator.
3. Do not coil or drape cables around your body.
4. Keep welding power source and cables as far away from operator as practical.
5. Connect work clamp to workpiece as close to the weld as possible.

**About Pacemakers:**

Pacemaker wearers consult your doctor first. If cleared by your doctor, then following the above procedures is recommended.

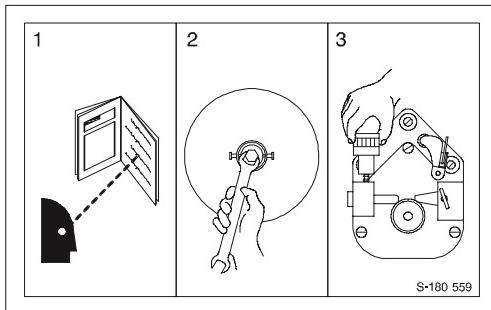
## SECTION 2 – DEFINITIONS

### 2-1. Warning Label Definitions

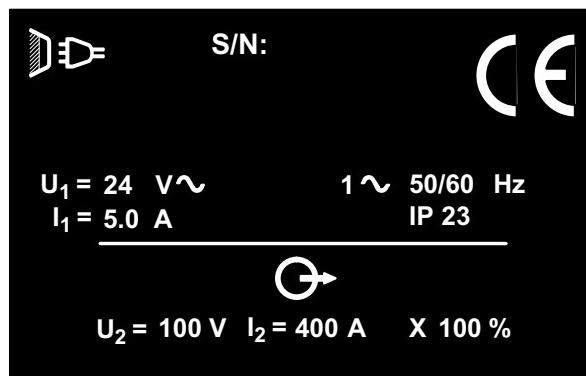


- A. Warning! Watch Out! There are possible hazards as shown by the symbols.
  - B. Drive rolls can injure fingers.
  - C. Welding wire and drive parts are at welding voltage during operation – keep hands and metal objects clear.
- 1 Electric shock can kill.
    - 1.1 Wear dry insulating gloves. Do not touch electrode with bare hand. Do not wear wet or damaged gloves.
    - 1.2 Protect yourself from electric shock by insulating yourself from work and ground.
    - 1.3 Disconnect input plug or power before working on machine.
  - 2 Breathing welding fumes can be hazardous to your health.
    - 2.1 Keep your head out of the fumes.
    - 2.2 Use forced ventilation or local exhaust to remove the fumes.
    - 2.3 Use ventilating fan to remove fumes.
  - 3 Welding sparks can cause explosion or fire.
    - 3.1 Keep flammables away from welding. Don't weld near flammables.
    - 3.2 Welding sparks can cause fires. Have a fire extinguisher nearby and have a watch person ready to use it.
    - 3.3 Do not weld on drums or any closed containers.
  - 4 Arc rays can burn eyes and injure skin.
    - 4.1 Wear hat and safety glasses. Use ear protection and button shirt collar. Use welding helmet with correct shade of filter. Wear complete body protection.
  - 5 Become trained and read the instructions before working on the machine or welding.
  - 6 Do not remove or paint over (cover) the label.

- 1 Read the Owner's Manual.
- 2 Do not overtighten wire spool brake pressure. Tighten only until wire does not overspool from wire supply spool.
- 3 Do not overtighten drive roll pressure. Tighten only until drive roll will not slip (motor will not stall) on a stationary wire.



## 2-2. Rating Label For CE Products



ST-178 794-A

### 2-3. Symbols And Definitions

**Note**  Some symbols are found only on CE products.

<b>A</b>	Amperes	<b>V</b>	Volts		Alternating Current	<b>X</b>	Duty Cycle
<b>IP</b>	Degree Of Protection	<b>Hz</b>	Hertz		Circuit Breaker		Wire Feed
	Jog		Output		Trigger		Gun
	Press To Set		Increase		Trigger Hold On		Trigger Hold Off
	Purge		Spot Weld Time		Percent		Run-In
	Burnback Time	<b>U<sub>1</sub></b>	Primary Voltage	<b>U<sub>2</sub></b>	Load Voltage		Read Instructions
	Primary Current	<b>I<sub>2</sub></b>	Rated Current		Line Connection		Water (Coolant) Input
	Water (Coolant) Output		Fuse		Continuous Spot Welding		

# Thank You

For selecting a quality product. We want you to take pride in operating this product...as much pride as we have in bringing the product to you!

## **Please Examine Carton and Equipment For Damage Immediately**

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

Please record your equipment identification information below for future reference. This information can be found on your machine nameplate.

Model Name & Number \_\_\_\_\_

Code & Serial Number \_\_\_\_\_

Date of Purchase \_\_\_\_\_

Whenever you request replacements parts for, or information on this equipment always supply the information you have recorded above.

Read this Owner's Manual completely before attempting to use this equipment. Save this manual and keep it handy for quick reference. Pay particular attention to the safety instructions we have provided for your protection.

## Section 3



### Installation

#### Technical Specifications

##### Wire Capacity

Aluminum and Cored Wire ..... .030" - 1/16" (0.8 mm - 1.6 mm)  
Solid and Hard Wire ..... .030" - .045" (0.6 mm - 1.2 mm)

**Wire Speed (At rated feeder input voltage) ..... 70 - 875 ipm (22.2 mpm)**

**Duty Cycle - 100% (All ratings are using Argon gas) ..... 200 Amps Peak**

**Shipping Weight (approximate) ..... 19.29 lbs. (8.29 Kg)**

**Gun weight (less leads)..... 2.5 lbs. (1.13 Kg)**

#### Support Equipment Required

- C.V. or C.C. power source of sufficient capacity for your needs.
- Regulated gas supply and hoses.
- Properly sized power leads from power source to wire feeder and ground.

#### Gun Lead Connections

##### Power Cable

A #2 AWG power cable is used on the XR™ Python®. The gun end of the cable has a fitting crimped to the copper cable strands. This fitting is then threaded into the gun body. The cabinet end of the power cable is incorporated into the Power Pin connector.

##### Conduit

The XR™ Python® comes standard with a poly-lined conduit, for feeding aluminum wire. The longer fitting with a shallow groove is used on the gun end. A set screw located on top of the gun handle secures the conduit in place. The cabinet end of the conduit is incorporated into the Power Pin connector.

##### Gas Hose

The gas hose is pushed over a barbed fitting on the gun body and secured with a plastic tie wrap. The cabinet end of the gas hose is incorporated into the Power Pin connector.

##### Electric Cable

A multi-conductor control cable is used on the XR™ Python®. The gun end of the cable is secured with a cable clamp and the wires are connected to the potentiometer, the micro switch, the motor and the gun body mechanically. Slack is left in the electric cable as it exits the back of the gun to prevent cable and/or wire breakage. The cabinet end of the control cable uses a 10-Pin, "X" clocked Amphenol connector.

## Section 4

### Operation

#### General

The Python® maintains a constant, steady, uniform wire feed speed, regardless of curved or looped wire conduit. The constant push exerted by the slave motor in the cabinet, combined with the pull of the gun motor,

causes the wire to literally float friction-free through the wire conduit. The 24VDC gun motor is controlled by a three and three-quarter (3 3/4) turn potentiometer in the gun handle.

## Controls and Settings

### Potentiometer

The laterally-positioned potentiometer is located in the lower end of the handle, providing up to 875 ipm (22.2 mpm) with 3 3/4 turns.

### Micro Switch

The micro switch assembly consists of a normally open micro switch and solder-attached leads.

### Trigger Sensitivity

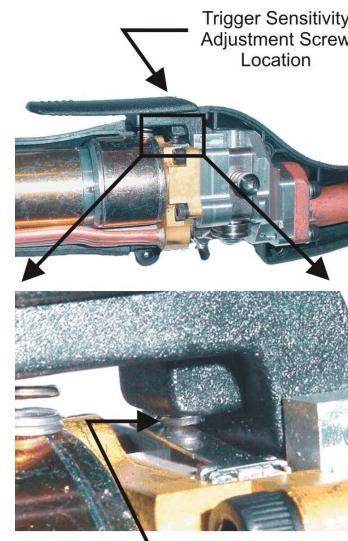
The amount of trigger level travel can be shortened for a quicker or more responsive action.

A more sensitive trigger lever is produced by reducing the gap between the trigger lever and the micro switch lever. By turning-in the trigger sensitivity adjustment screw, it closed the gap between the trigger lever and the micro switch lever.

This will enable the operator to increase the sensitivity of the trigger lever.

### Sensitivity Adjustment

With the wire feeder turned on (with or without welding wire loaded), turn the screw in until the micro-switch is activated. Once activated, the gun and wire feeder motors will begin feeding wire. Retract the screw accordingly until the system is deactivated and adjusted to the operators' liking.



Screw adjusted out of trigger, pre-setting the micro-switch lever for shorter trigger motion sensitivity.

## Drive Roll and Idler Rolls

The Python® comes standard with a knurled drive roll and a grooved idler roll, which will handle both steel and aluminum wire with diameters from .030-1/16 inch. Optional insulated V-groove drive rolls are also available for aluminum wire if desired (see optional kits).

Drive roll tension is accomplished with a unique spring-loaded pressure screw. The Python® comes from the factory with the pressure adjustment screw preset.

### NO ADJUSTMENT REQUIRED FOR ANY WIRE SIZE AND ALLOY

#### Drive Roll Installation/Removal

**Note:** Neither of the handles needs to be removed to access the drive or idler rolls.

1. Pull the cam lever away from the idler roll. This will relieve the pressure against the drive roll (as shown in Figure 1).



Figure 1

2. Align the drive roll removal tool (P/N 931-0100) over the flats of the drive roll (as shown in Figure 2). Hold the gun with one hand or on a table top, with the other hand give the removal tool a quick snap turn in the **CLOCKWISE DIRECTION**.
3. Once the drive roll is loose, continue to spin drive roll in the clockwise direction to remove the drive roll from the gun.
4. Install a new drive roll on the left-hand threaded shaft. The drive roll will self-tighten when it is feeding wire.



Figure 2

#### **Idler Roll Installation and Removal (Reference Figure 3)**

1. Using a slot type screwdriver, loosen idler screw, taking care not to lose lock washer under idler roll.
2. Insert new idler roll and lock washer onto screw, insuring that idler groove is toward top and lock washer is beneath.
3. Tighten screw until tight.

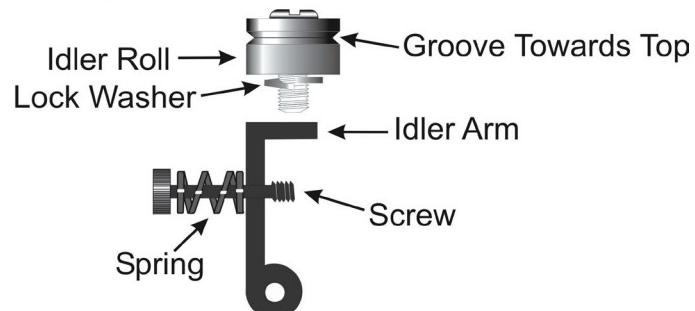


Figure 3

*NOTE: Lock washer must be under idler roll or it will not turn freely.*

## **Section 5**

### **Options and Accessories**

#### **Insulated Drive Roll Kits**

Used to prevent preheating of the wire which may soften it and clog the liner. This picking up of current at the drive rolls rather than at the contact tip is usually not a problem unless using too large of a contact tip or excessively oxidized aluminum wire.

	MK P/N	Miller P/N
<b>Insulated Groove Drive Roll Kit.....</b>	<b>005-0640</b>	<b>215677</b>
For .030" (0.8 mm) dia. aluminum wire. Includes insulated drive roll P/N 511-0102 and idler roll assy. P/N 003-1870.		
<b>Insulated Groove Drive Roll Kit.....</b>	<b>005-0641</b>	<b>215678</b>
For .035" (0.9 mm) dia. aluminum wire. Includes insulated drive roll P/N 511-0103 and idler roll assy. P/N 003-1870.		
<b>Insulated Groove Drive Roll Kit.....</b>	<b>005-0642</b>	<b>N/A</b>
For .040" (1.0 mm) dia. aluminum wire. Includes insulated drive roll P/N 511-0104 and idler roll assy. P/N 003-1870.		
<b>Insulated Groove Drive Roll Kit.....</b>	<b>005-0643</b>	<b>215687</b>
For .045" (1.2 mm) dia. aluminum wire. Includes insulated drive roll P/N 511-0105 and idler roll assy. P/N 003-1870.		
<b>Insulated Groove Drive Roll Kit.....</b>	<b>005-0644</b>	<b>215684</b>
For .062" (1.6 mm) dia. aluminum wire. Includes insulated drive roll P/N 511-0106 and idler roll assy. P/N 003-1870.		

<b>Replacement Kits</b>	
<b>Handle Kit</b> .....	<b>005-0699</b>
Left and right handles, screws and drive roll door, as a replacement for all Python® guns.	
<b>Trigger Kit</b> .....	<b>005-0694</b>
Trigger adjustment kit includes a spring and sensitivity adjustment screw replacement for all Python® guns.	
<b>Micro Switch Kit</b> .....	<b>005-0701</b>
Replacement micro switch assembly for all Python® guns.	
<b>Potentiometer Kit</b> .....	<b>005-0695</b>
Replacement potentiometer assembly for all Python® guns.	
 <b>Conduit</b>	
Flat spiral steel conduit for steel & cored wire .....	<b>615-0216</b>
 <b>Snake Skins</b>	
A Snake Skin protective cover is standard on the XR™ Python®. You may order spare replacement covers to protect the lead assy of the gun when the original becomes damaged or worn. It can easily be replaced in the field by means of a hook and loop type fastener.	
Replacement Snake Skin .....	<b>931-0122</b>
 <b>Contact Tips</b>	
The XR™ Python® comes standard with genuine Miller FasTip Contact Tips. For a complete listing of available contact tips for the XR™ Python®, please reference the XR™ Python® Barrel breakdown and Parts List later in this manual.	
 <b>Diffuser</b>	
The XR™ Python® comes standard with a genuine Miller Gas Diffuser. For a complete listing of available diffusers for the XR™ Python®, please reference the XR™ Python® Barrel breakdown and Parts List later in this manual.	
 <b>Nozzle</b>	
The XR™ Python® comes standard with a genuine Miller Gas Nozzle. For a complete listing of available nozzles for the XR™ Python®, please reference the XR™ Python® Barrel breakdown and Parts List later in this manual.	
 <b>Barrel</b>	
The XR™ Python® comes standard with a 60° curved barrel. The barrel assembly locks to the Python® body using the patented EZ Lock™ system.	
 <b>Barrel Removal and Installation</b>	
To remove the barrel assembly, loosen the patented EZ Lock™ taper lock nut until it is clear of the threads. Pull barrel out of the gun body.	
To replace a barrel assembly, push the barrel assembly into the gun body until it stops. To assure proper seating of the barrel, open the drive/idler roll door in the top of the handle. The rear face of the barrel should now be flush with the gun body. Take care not to damage the o-rings when inserting into the body. Tighten taper lock nut assembly firmly so that barrel cannot rotate while welding.	
 <b>Barrel Rotation</b>	
To rotate a barrel assembly, loosen the patented EZ Lock™ taper lock nut assembly no more than 1 turn. Rotate barrel to the position of your choice and re-tighten taper lock nut assembly firmly so that the barrel cannot rotate.	

## Section 6

**WARNING: Do not attempt to weld without the barrel being tightly secured in the gun body, or damage to the barrel or body may result.**

### Barrel Liner

The standard Teflon liner in the XR™ Python® barrel is designed for aluminum and other soft wire. A Steel liner is available for steel, cored and other hard wires.

Liner Package, Teflon Standard - Aluminum (5 pcs.) ..... **931-0137**  
Liner, Spiral Steel - Steel and Hard Wires. .... **615-0338**

## Maintenance

### Periodic Maintenance

Your XR™ Python® is designed to provide years of reliable service. Maintenance of the gun will normally consist of a general cleaning of the wire guide system, including barrels, drive rolls, and conduits at regular intervals.

Remove spatter build-up from inside of nozzles with a hardwood stick.

The only parts that are subject to normal wear are the conduit, contact tips, nozzles, barrel liners, wire guides, drive and idler rolls. A supply of these parts should be maintained on hand.

The number of units in operation and the importance of minimal down time will determine to what extent spare parts should be stocked on hand. See the recommended spare parts list for the most commonly replaced parts.

If repairs do become necessary, qualified shop maintenance personnel can easily replace any part.

Maintenance Tools	
Tool	Part Number
Drive Roll Removal Tool	215676

Reference the table below for suggested Maintenance Tools used with the XR™ Python® welding gun.

### Testing The Gun

*Reference the "X" clocked Amphenol diagram  
on the XR™ Python® electrical diagram  
for information about pin-outs and locations.*

### Motor Check

Remove the connector from the cabinet.

Using the Amphenol connector, check the resistance across pins “C” and “B” (motor leads). The resistance across the motor should be between **5 - 10 ohms** as the potentiometer is turned.

If an open circuit or short exist, check the motor leads and motor independently.

### Testing the Gun Potentiometer

Using the amphenol connector, check the resistance across pin “F” (wiper) and pin “E”. The resistance should vary from **0 - 5K ohms** as the potentiometer is turned.

## Section 7

Check the resistance across pin "F" (wiper) and pin "H". The resistance should vary from **5K - 0 ohms** as the potentiometer is turned.

### Testing the Micro Switch

Using the amphenol connector, check for continuity across pins "D" and "G" when the trigger is pressed.

### Recommended Spare Parts

Listed in the table bale is the factory recommendation of the necessary spare parts which should be kept on hand for maintaining proper operation of the XR™ Python® welding gun.

**Recommended Spare Parts List**

Qty.	Part No.	Description
1	615-0008	Conduit
2	005-0694	Trigger Assy Kit
2	005-0695	Potentiometer Assy Kit
1	005-0699	Handle Kit
2	005-0701	Micro-Switch Assy Kit
10	511-0101	Drive Roll
5	005-0686	Idler Roll Kit
2	931-0137	Liner Package - 5 pieces each
A/R	206189	Contact Tips
A/R	198855	Nozzle
A/R	206195	Diffuser

This list, in no way, indicates that these parts are more likely to fail or cause equipment damage. This is not an indication of premature failure or defect in manufacture of said parts.

## Section 8

### Troubleshooting Guide

To aid in troubleshooting problems with your welding equipment, it is best to understand the basic theory of operation for this Push-Pull System. The slave motor in the feeder runs at a fast, constant speed, but has very low torque. It is always trying to feed more wire than the gun motor wants, and when the motor gets all it wants, it slows the slave motor, preventing a bird's nest. Because of the low torque produced by the slave motor, a brake system is used to prevent wire overrun rather than tension. The drag adjustment in the feeder is used simply to keep the wire slightly taut, so it will not pull off the spool while feeding wire.

The high torque 24VDC gun motor is controlled by a solid state speed control located in the feeder, and a pot located in the gun. The gun motor, potentiometer, and micro switch are connected to the cabinet/control box via a control cable and Amphenol connector. If this cable becomes damaged, a variety of symptoms can occur, depending on which wire(s) break. To test, check each wire for continuity and shorts.

Remember, the micro switch in the gun activates both the slave motor and gun motor circuits in the cabinet. Therefore, if the slave motor and brake solenoid operate, but the gun does not, look more toward the gun motor's 24 V circuits, speed control, control cable, or the gun motor. If nothing operates, look more toward the slave motor's input, micro switch leads, or micro switch.

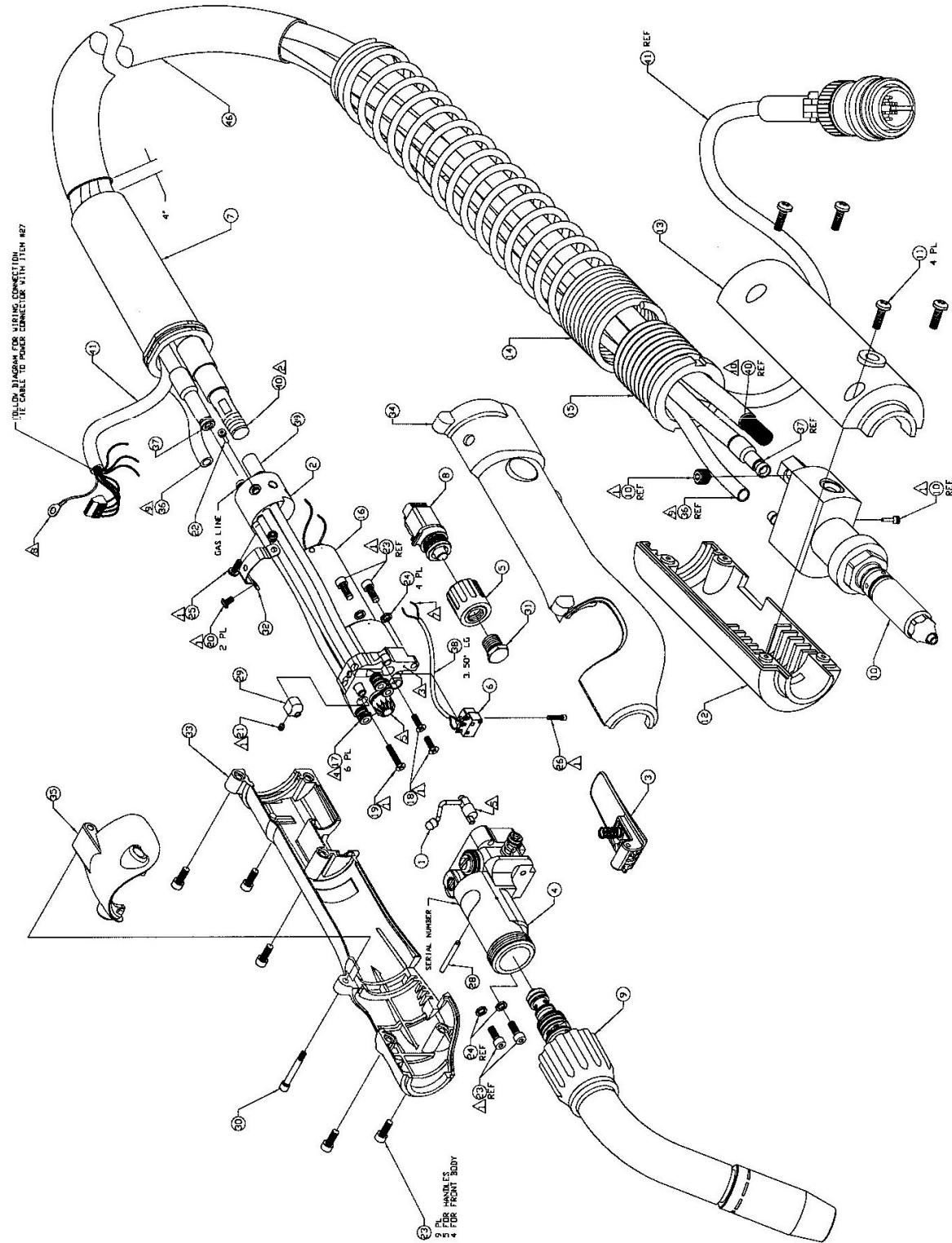
## Troubleshooting Table

Symptoms	Cause	Remedy
No wire feed at gun, feeder not operating, i.e. no slave motor or brake solenoid.	Circuit breaker in feeder/control box open.	Reset.
	Micro-switch defective/not being activated.	Replace switch. Check switch for operation.
	Broken electrical cable.	Check micro-switch wires for continuity.
No wire feed at gun, feeder operating properly.	Circuit breaker in feeder/control box open.	Check motor leads for short. Reset.
	Bad potentiometer.	Check potentiometer with meter.
	Broken electrical cable.	Check motor and potentiometer wires for continuity.
	Bad speed control/PCB.	See specific feeder/control box owner's manual for speed control operation.
Wire feeds, but welding wire is not energized.	Loose or no cable connections.	Check all power connections.
	Contactor control cable loose or in wrong position.	Check power supply owner's manual for location and type of contactor signal required.
	Welding power source.	Check power source.
Wire feeds erratically.	Dirty or worn conduit.	Blow out or replace conduit.
	Wrong size contact tip.	See contact tip table.
	Idler roll stuck.	Check for lock washer under idler roll, or replace if damaged.
Wire feeds one speed only.	Bad potentiometer.	Check with meter.
	Broken electrical cable.	Check potentiometer wires for continuity or short.
	Bad speed control.	See specific feeder/control owner's manual for speed control operation.
Wire walks out of drive rolls.	Idler roll upside-down.	Place groove in idler roll toward top.
	Rear wire guide missing.	Replace wire guide.
Consult wire feeder and welding power supply owners manuals for further problem solving solutions.		

**Section 9****Appendices****Diagrams / Parts List**

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# XR™ Python® - 25 Ft. Model 195451

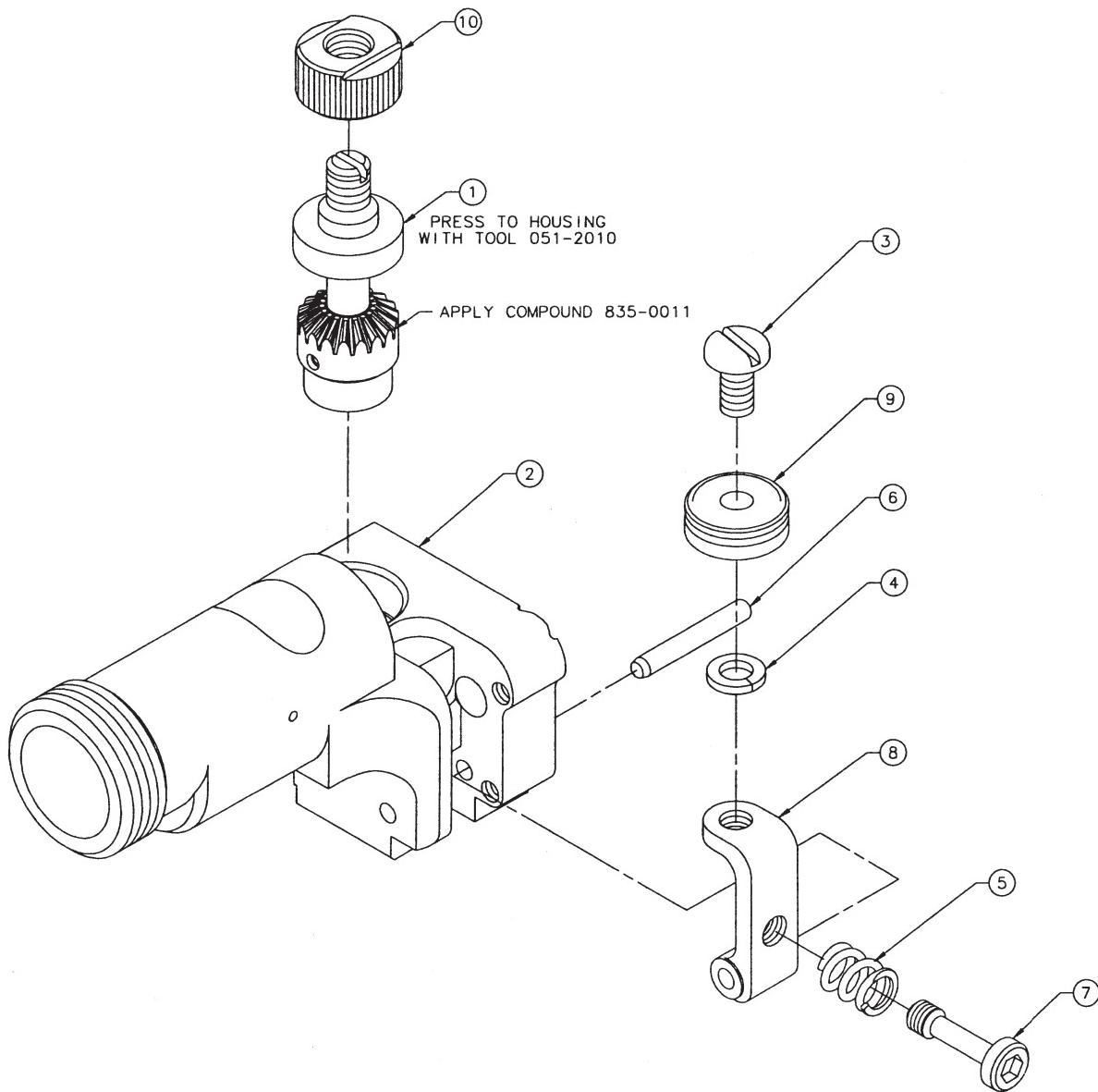


## XR™ Python® Parts List

No.	Qty	Part No.	Description	No.	Qty	Part No.	Description
1	1	002-0629	Cam Idler Arm Assy	24	4	333-0005	#6 Spring Lock Washer
2	1	002-0631	Brazed Rear Body	25	1	336-0020	Screw PH Phil 4-40 x 5/16 SST
3	1	005-0694	Trigger Kit	26	1	338-0153	Screw SHC 1-72 X 3/8
4	1	003-2108	Front Body Assy	27	6	411-0045	Tie Wrap
5	1	003-2125	Pot Knob Assy	28	1	421-0018	Dowel Pin 3/32 X 7/8 SST
6	1	005-0701	Micro Swx Kit	29	1	431-1591	Wire Guide
7	1	003-2153	Lead Assembly Boot	30	1	431-1622	Shoulder Screw 1/8 X 4-40
8	1	005-0695	Pot Assy Kit	31	1	431-1637	Hex Screw 3/8-20 X 3/8
9	1	003-2240	Barrel 60°, XR™ Python®	32	1	435-1585	Motor Strap
10	1	003-2241	Power Pin Assy, XR™ Python®	33	1	005-0699	Handle Kit, includes #23, 30 & 35
11	4	145217	Screw, K40 x 12	34			
12	1	189812	Housing, Power Pin Handle - Right	35	1	437-0253	Molded Door
13	1	189811	Housing, Power Pin Handle - Left	36	1	552-0225	Gas Hose, XR™ Python®
14	1	203562	Strain Relief Spring	37	1	615-0008	Conduit
15	1	203560	Spring Retainer	38	0.30 ft	737-0048	Tube Insulation 9 AWG, Clear
16	1	211-0077	Motor	39	1	751-0020	Cap Plug 0.218 ID X 0.50 LG
17	6	303-0096	O-Ring 2-007 Buna N	40	1	843-0620	Power Cable Assy, XR™ Python®
18	2	319-0254	Screw FH Phil 82 4-40 X 3/8 SST	41	1	843-0625	Control Cable Assy, XR™ Python®
19	1	319-0258	Screw FH Phil 82 4-40 X 5/8 SST	42	A/R	823-0029	Naolox Compound
20	2	320-0084	Screw Button 4-40 X 3/16 ST	43	A/R	823-0050	Thread Locking Cmpd Low Str
21	1	321-0424	Set Screw #4-40 X 1/8 SST	44	A/R	835-0006	Silicon Lubricant
22	1	321-1104	Set Screw Mod	45	A/R	835-0011	Compound Grease
23	9	328-0012	Screw SHC 6-32 x 3/8	46	1	931-0122	Snake Skin Cable Cover

# Python® Front Body Assembly

## P/N 003-2108

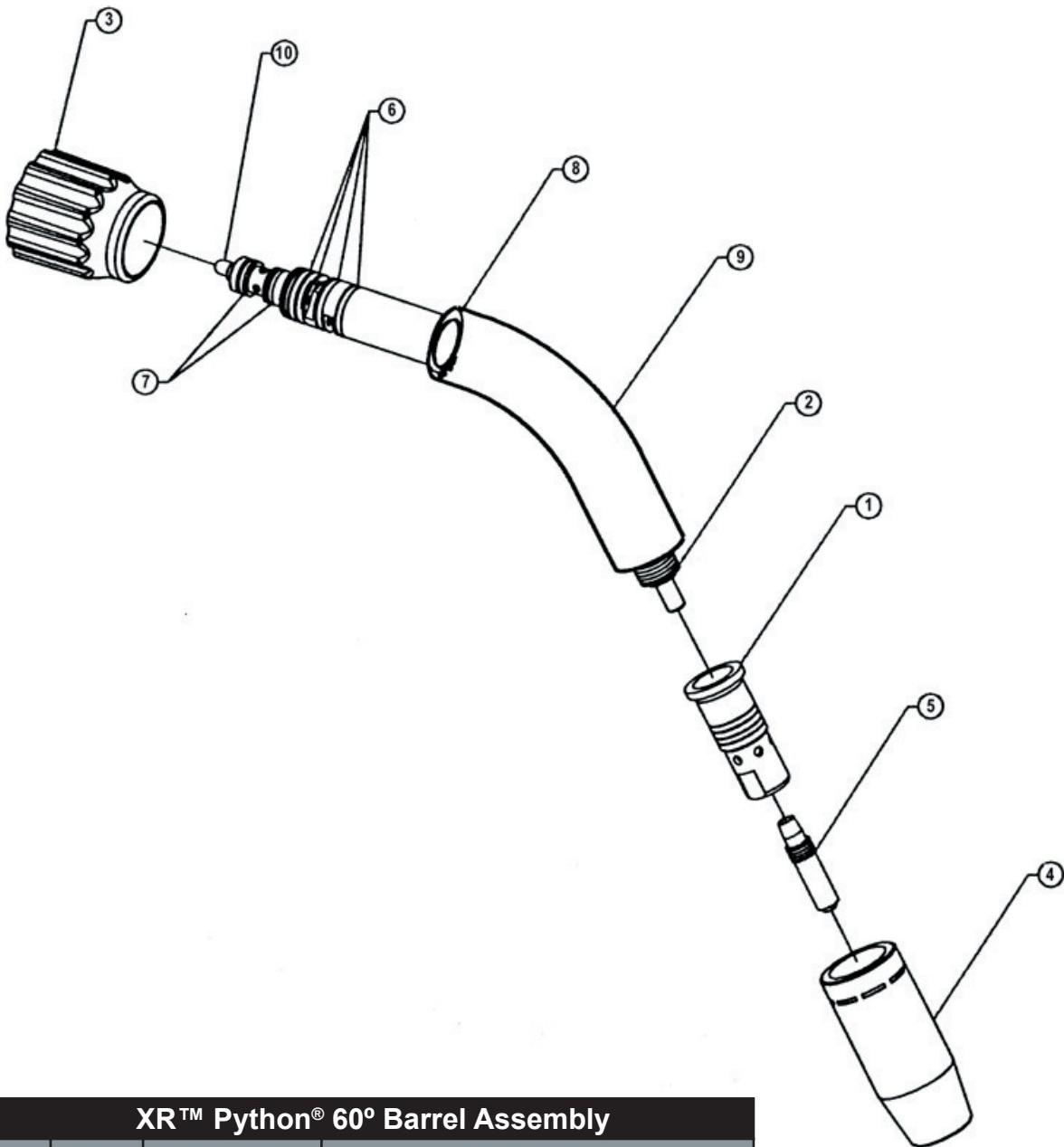


### Python® Front Body Assembly

No.	Qty.	Part Number	Description
1	1	003-2083	Output Shaft Assembly
2	1	003-2106	Body Assembly
3	1	325-0206	10-24 x 3/8 PH Screw
4	1	333-0082	# 10 Lock Washer
5	1	419-0092	0.29 x 0.047 x 0.32 Comp. Spring
6	1	421-0525	1/8 x 7/8 SST Dowel Pin
7	1	431-1663	Idler Adjusting Screw
8	1	431-1598	Idler Arm
9	1	511-0001	Idler Wire Feed Assembly
10	1	511-0101	Drive roll

# XR™ Python® Barrel Assembly - 60°

## P/N 003-2240



### XR™ Python® 60° Barrel Assembly

No.	Qty.	Part Number	Description
1	1	206195*	Diffuser, 1/8 Tip Recess
2	1	002-0652	Assy Barrel Bend XR Python
3	1	003-2213	Assy Taper Lock Barrel
4	1	198855*	Nozzle, Copper, 5/8" Orifice
5	1	206189*	.052 Heavy Duty FasTip
6	4	303-0010	O-Ring, 0.489 ID x 0.629 OD
7	2	303-0094	O-Ring, 0.301 ID x 0.070 WT
8	1	313-0091	Retaining Ring
9	1	261-0157	Barrel Insulator
10	0.66ft.	931-0137	Liner, Teflon Package - 5 pcs.

\* Standard

# XR™ Replacement Consumables

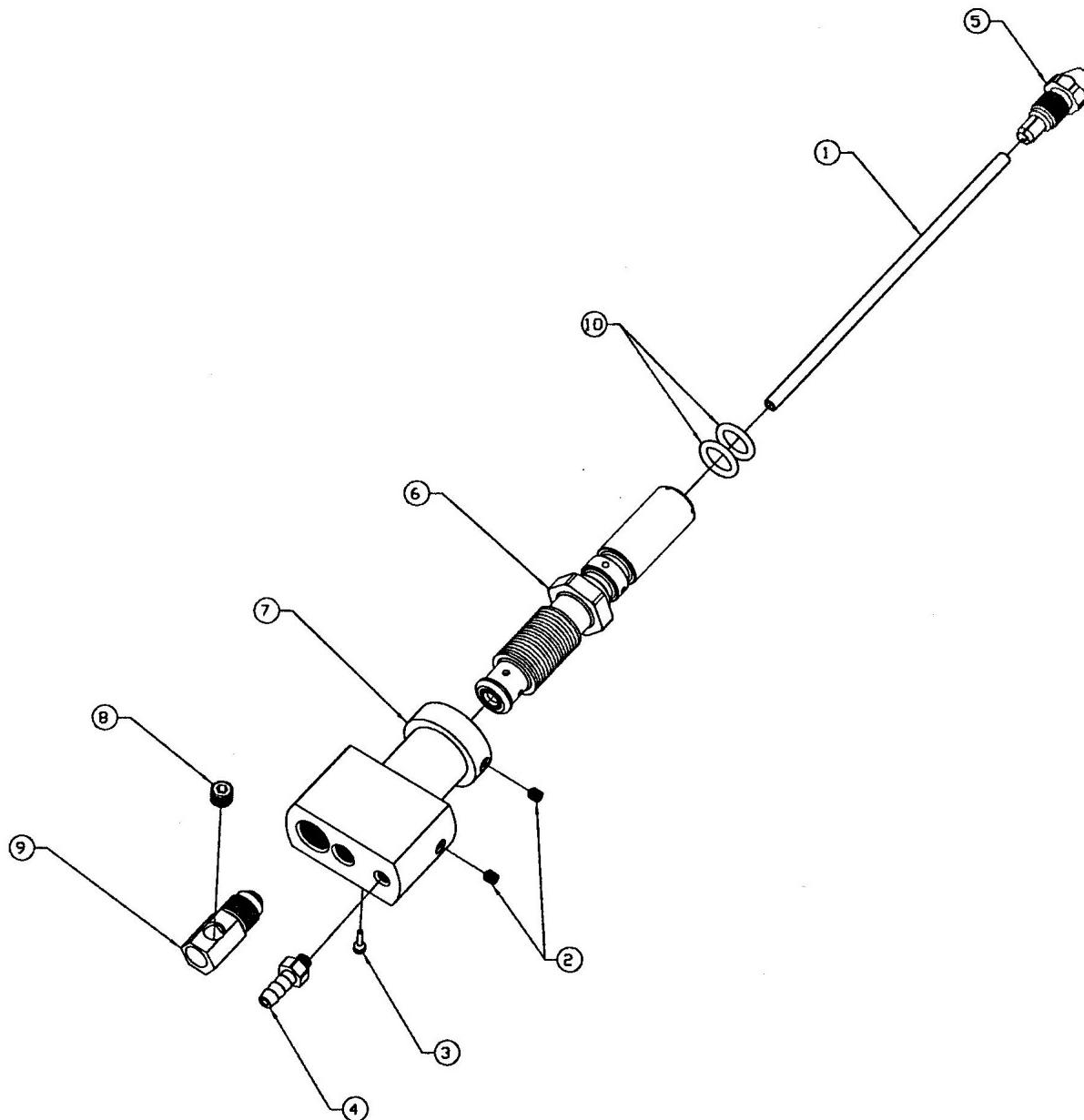
Item	P/N	Description
<b>NOZZLES</b>		
4	176238 <sup>A</sup>	NOZZLE, spot flat
4	176240 <sup>A</sup>	NOZZLE, spot inside corner
4	176242 <sup>A</sup>	NOZZLE, spot outside corner
4	199610	NOZZLE, screw on brass 1/2" orifice
4	199611	NOZZLE, screw on brass 3/4" orifice straight
4	199612	NOZZLE, screw on brass 3/4" orifice straight heavy duty
4	199613	NOZZLE, screw on brass 5/8" orifice
4	199614	NOZZLE, screw on brass 5/8" orifice heavy duty
4	199615	NOZZLE, screw on copper 1/2" orifice
4	199616	NOZZLE, screw on copper 3/4" orifice straight
4	199617	NOZZLE, screw on copper 3/4" orifice straight heavy duty
4	198855	NOZZLE, screw on copper 5/8" orifice (standard on 300 & 400 amp models)
4	199618	NOZZLE, screw on copper 5/8" orifice (standard on 500 & 600 amp models)
4	207313	NOZZLE, screw on copper 5/8" orifice tapered 15/16 OD
4	209035 <sup>B</sup>	NOZZLE, screw on copper 3/8" orifice tapered
4	209036 <sup>B</sup>	NOZZLE, screw on copper 1/2" orifice tapered
<b>CONTACT TIPS</b>		
<b>Standard FasTip Contact Tips - 0.281 OD</b>		
5	206177	.035 (0.9 mm) / .030 (0.8 mm) aluminum wire
5	206179	.045 (1.2 mm) / .040 (1.0 mm) aluminum wire
5	206180	.052 (1.3 mm) / 3/64 (1.2 mm) aluminum wire
5	206181	1/16 (1.6 mm)
5	206182	.068 (1.7 mm) or (1.6 mm) aluminum wire
<b>Heavy Duty FasTip Contact Tips - 0.312 OD</b>		
5	206186	.035 (0.9 mm) / .030 (0.8 mm) aluminum wire
5	206187	.040 (1.0 mm) / .035 (0.9 mm) aluminum wire
5	206188	.045 (1.2 mm) / .040 (1.0 mm) aluminum wire
5	206189	.052 (1.3 mm) or 3/64 (1.2 mm) aluminum wire
5	206190	1/16 (1.6 mm)
5	206191	.068 (1.7 mm) or (1.6 mm) aluminum wire
<b>Tapered FasTip Contact Tips</b>		
5	209026	.035 (0.9 mm) / .030 (0.8 mm) aluminum wire
5	209027	.040 (1.0 mm) / .035 (0.9 mm) aluminum wire
5	209028	3/64 (1.2 mm)
5	209029	.052 (1.3 mm)
5	209030	1/16 (1.6 mm)
<b>GAS DIFFUSERS</b>		
1	206195	1/8 tip recess - for all standard and heavy duty FasTip contact tips (standard)
1	210664	1/4 tip recess - for all standard and heavy duty FasTip contact tips
1	206196	Flush tip - for standard and heavy duty FasTip contact tips

<sup>A</sup> Requires diffuser 209099, used with any standard or heavy duty FasTip contact tip.

<sup>B</sup> Requires diffuser 206195, 206196 or 210664, used with any tapered FasTip contact tip.

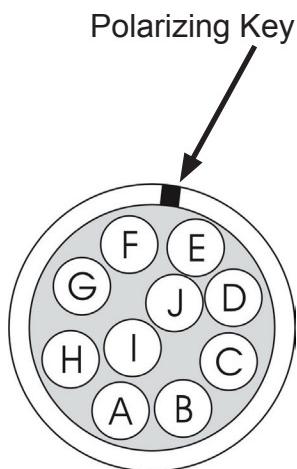
# XR™ Python® Power/Gas Connector

## P/N 003-2241



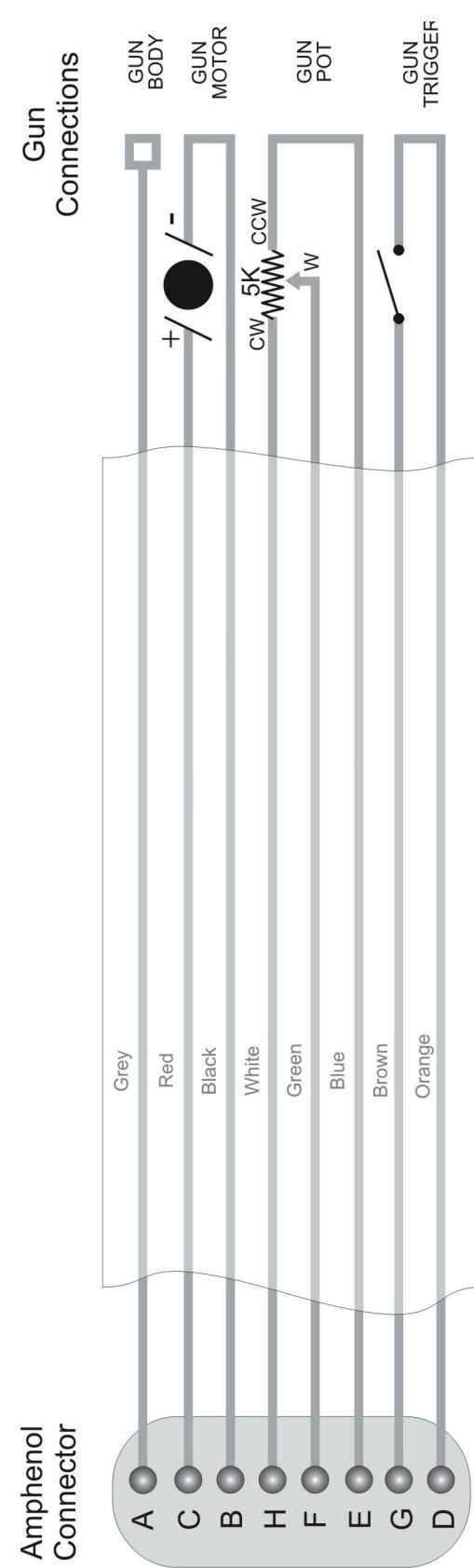
XR™ Python® Power/Gas Connector			
No.	Qty.	Part Number	Description
1	0.45ft	615-0351	Teflon Tube Liner
2	2	602172	Set Screw, 10-32 x 18
3	1	321-1104	Set Screw, Mod Conduit
4	1	202513	Gas Hose Fitting
5	1	202216	Outlet Wire Guide
6	1	193896	Power Pin Assy
7	1	431-1743	Power Gas Connector, MODIFIED
8	1	141694	Set Screw, 5/16-18 x 0.37
9	1	137495	Power Weld Fitting
10	2	079974	O-Ring, 0.5 ID

# XR™ Python® Electrical Schematic/ Connector Pinout



"X" Clocked Amphenol Connector

Viewed from back of connector



<b>WARNING</b>	<ul style="list-style-type: none"> <li>Do not touch electrically live parts or electrode with skin or wet clothing.</li> <li>Insulate yourself from work and ground.</li> </ul>	<ul style="list-style-type: none"> <li>Keep flammable materials away.</li> </ul>	<ul style="list-style-type: none"> <li>Wear eye, ear and body protection.</li> </ul>
Spanish <b>AVISO DE PRECAUCION</b>	<ul style="list-style-type: none"> <li>No toque las partes o los electrodos bajo carga con la piel o ropa mojada.</li> <li>Aislese del trabajo y de la tierra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenga el material combustible fuera del área de trabajo.</li> </ul>	<ul style="list-style-type: none"> <li>Protéjase los ojos, los oídos y el cuerpo.</li> </ul>
French <b>ATTENTION</b>	<ul style="list-style-type: none"> <li>Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension.</li> <li>Isolez-vous du travail et de la terre.</li> </ul>	<ul style="list-style-type: none"> <li>Gardez à l'écart de tout matériel inflammable.</li> </ul>	<ul style="list-style-type: none"> <li>Protégez vos yeux, vos oreilles et votre corps.</li> </ul>
German <b>WARNUNG</b>	<ul style="list-style-type: none"> <li>Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung!</li> <li>Isolieren Sie sich von den Elektroden und dem Erdboden!</li> </ul>	<ul style="list-style-type: none"> <li>Entfernen Sie brennbarres Material!</li> </ul>	<ul style="list-style-type: none"> <li>Tragen Sie Augen-, Ohren- und Körperschutz!</li> </ul>
Portuguese <b>ATENÇÃO</b>	<ul style="list-style-type: none"> <li>Não toque partes elétricas e eletródos com a pele ou roupa molhada.</li> <li>Isole-se da peça e terra.</li> </ul>	<ul style="list-style-type: none"> <li>Mantenha inflamáveis bem guardados.</li> </ul>	<ul style="list-style-type: none"> <li>Use proteção para a vista, ouvido e corpo.</li> </ul>
Japanese <b>注意事項</b>	<ul style="list-style-type: none"> <li>通電中の電気部品、又は溶材にヒヤやぬれた布で触れないこと。</li> <li>施工物やアースから身体が絶縁されている様にして下さい。</li> </ul>	<ul style="list-style-type: none"> <li>燃えやすいものの側での溶接作業は絶対にしてはなりません。</li> </ul>	<ul style="list-style-type: none"> <li>目、耳及び身体に保護具をして下さい。</li> </ul>
Chinese <b>警告</b>	<ul style="list-style-type: none"> <li>皮肤或湿衣物切勿接触带电部件及焊条。</li> <li>使你自己與地面和工件絕緣。</li> </ul>	<ul style="list-style-type: none"> <li>把一切易燃物品移離工作場所。</li> </ul>	<ul style="list-style-type: none"> <li>佩戴眼、耳及身體勞動保護用具。</li> </ul>
Korean <b>위험</b>	<ul style="list-style-type: none"> <li>전도체나 용접봉을 젖은 청검 또는 피부로 절대 접촉치 마십시오.</li> <li>모지와 접지를 접촉치 마십시오.</li> </ul>	<ul style="list-style-type: none"> <li>인화성 물질을 접근 시키지 마시요.</li> </ul>	<ul style="list-style-type: none"> <li>눈, 귀와 몸에 보호장구를 착용하십시오.</li> </ul>
Arabic <b>تحذير</b>	<ul style="list-style-type: none"> <li>لا تلمس الأجزاء التي يسري فيها التيار الكهربائي أو المترود بجذد الجسم أو بالملابس المبللة بالماء.</li> <li>ضع عازلا على جسمك خلال العمل.</li> </ul>	<ul style="list-style-type: none"> <li>ضع المواد القابلة للاشتعال في مكان بعد.</li> </ul>	<ul style="list-style-type: none"> <li>ضع أدوات وملابس وآلية على عينيك وأنفك وجسمك.</li> </ul>

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPEMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGsvORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

			
<ul style="list-style-type: none"> <li>● Keep your head out of fumes.</li> <li>● Use ventilation or exhaust to remove fumes from breathing zone.</li> </ul>	<ul style="list-style-type: none"> <li>● Turn power off before servicing.</li> </ul>	<ul style="list-style-type: none"> <li>● Do not operate with panel open or guards off.</li> </ul>	<b>WARNING</b>
<ul style="list-style-type: none"> <li>● Los humos fuera de la zona de respiración.</li> <li>● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.</li> </ul>	<ul style="list-style-type: none"> <li>● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.</li> </ul>	<ul style="list-style-type: none"> <li>● No operar con panel abierto o guardas quitadas.</li> </ul>	Spanish <b>AVISO DE PRECAUCION</b>
<ul style="list-style-type: none"> <li>● Gardez la tête à l'écart des fumées.</li> <li>● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.</li> </ul>	<ul style="list-style-type: none"> <li>● Débranchez le courant avant l'entretien.</li> </ul>	<ul style="list-style-type: none"> <li>● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.</li> </ul>	French <b>ATTENTION</b>
<ul style="list-style-type: none"> <li>● Vermeiden Sie das Einatmen von Schweißrauch!</li> <li>● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!</li> </ul>	<ul style="list-style-type: none"> <li>● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)</li> </ul>	<ul style="list-style-type: none"> <li>● Anlage nie ohne Schutzgehäuse oder Innenenschutzverkleidung in Betrieb setzen!</li> </ul>	German <b>WARNUNG</b>
<ul style="list-style-type: none"> <li>● Mantenha seu rosto da fumaça.</li> <li>● Use ventilação e exaustão para remover fumo da zona respiratória.</li> </ul>	<ul style="list-style-type: none"> <li>● Não opere com as tampas removidas.</li> <li>● Desligue a corrente antes de fazer serviço.</li> <li>● Não toque as partes elétricas nuas.</li> </ul>	<ul style="list-style-type: none"> <li>● Mantenha-se afastado das partes moventes.</li> <li>● Não opere com os painéis abertos ou guardas removidas.</li> </ul>	Portuguese <b>ATENÇÃO</b>
<ul style="list-style-type: none"> <li>● ヒュームから頭を離すようにして下さい。</li> <li>● 換気や排煙に十分留意して下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切って下さい。</li> </ul>	<ul style="list-style-type: none"> <li>● パネルやカバーを取り外したまま機械操作をしないで下さい。</li> </ul>	Japanese <b>注意事項</b>
<ul style="list-style-type: none"> <li>● 頭部遠離煙霧。</li> <li>● 在呼吸區使用通風或排風器除煙。</li> </ul>	<ul style="list-style-type: none"> <li>● 維修前切断電源。</li> </ul>	<ul style="list-style-type: none"> <li>● 電表板打開或沒有安全罩時不準作業。</li> </ul>	Chinese <b>警告</b>
<ul style="list-style-type: none"> <li>● 얼굴로부터 용접가스를 멀리하십시오.</li> <li>● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 보수전에 전원을 차단하십시오.</li> </ul>	<ul style="list-style-type: none"> <li>● 판넬이 열린 상태로 작동치 마십시오.</li> </ul>	Korean <b>위험</b>
<ul style="list-style-type: none"> <li>● بعد رأسك بعيداً عن الدخان.</li> <li>● استعمل التهوية أو جهاز ضبط الدخان الخارجى لكي تبعد الدخان عن المنطقة التي تتنفس فيها.</li> </ul>	<ul style="list-style-type: none"> <li>● أقطع التيار الكهربائي قبل القيام بأية صيانة.</li> </ul>	<ul style="list-style-type: none"> <li>● لا تشعل هذا الجهاز اذا كانت الاخطية الحديدية الواقية ليست عليه.</li> </ul>	Arabic <b>تحذير</b>

**LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.**

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀擋材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.

# 3 YEAR LIMITED WARRANTY

**Effective February 1, 2003**

*Warranty Questions?*

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every step of the way.

**LIMITED WARRANTY** - MK Products, Inc., Irvine, California warrants that all new and unused equipment furnished by MK Products is free from defects in workmanship and material as of the time and place of delivery by MK Products. No warranty is made by MK Products with respect to trade accessories or other items manufactured by others. Such trade accessories and other items are sold subject to the warranties of their respective manufacturers, if any.

MK Products' warranty does not apply to components having normal useful life of less than one (1) year, such as relay points, wire conduit, tungsten, and welding gun parts that come in contact with the welding wire, including gas cups, gas cup insulators, and contact tips where failure does not result from defect in workmanship or material.

MK Products' shall, exclusively remedy the limited warranty or any duties with respect to the quality of goods, based upon the following options:

- (1) repair
- (2) replacement
- (3) where authorized in writing by MK Products, the reasonable cost of repair or replacement at our Irvine, California plant; or
- (4) payment of or credit for the purchase price (less reasonable depreciation based upon actual use) upon return of the goods at customer's risk and expense. Upon receipt of notice of apparent defect or failure, MK Products shall instruct the claimant on the warranty claim procedures to be followed.

As a matter of general policy only, MK Products may honor an original user's warranty claims on warranted equipment in the event of failure resulting from a defect within the following periods from the date of delivery of equipment to the original user:

- |                         |                |
|-------------------------|----------------|
| <b>1. Guns .....</b>    | <b>1 year</b>  |
| <b>2. Repairs .....</b> | <b>90 days</b> |

Classification of any item into the foregoing categories shall be at the sole discretion of MK Products. Notification of any failure must be made in writing within 30 days of such failure.

A copy of the invoice showing the date of sale must accompany products returned for warranty repair or replacement.

All equipment returned to MK Products for service must be properly packaged to guard against damage from shipping. MK Products will not be responsible for any damages resulting from shipping.

Normal surface transportation charges (both ways) for products returned for warranty repair or replacement will be borne by MK Products, except for products sold to foreign markets.

ANY EXPRESS WARRANTY NOT PROVIDED HEREIN AND ANY IMPLIED WARRANTY, GUARANTY, OR REPRESENTATION AS TO PERFORMANCE, AND ANY REMEDY FOR BREACH OF CONTRACT WHICH, BUT FOR THIS PROVISION, MIGHT ARISE BY IMPLICATION, OPERATION OF LAW, CUSTOM OF TRADE, OR COURSE OF DEALING, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR PARTICULAR PURPOSE, WITH RESPECT TO ANY AND ALL EQUIPMENT FURNISHED BY MK PRODUCTS, IS EXCLUDED AND DISCLAIMED BY MK PRODUCTS.

EXCEPT AS EXPRESSLY PROVIDED BY MK PRODUCTS IN WRITING, MK PRODUCTS ARE INTENDED FOR ULTIMATE PURCHASE BY COMMERCIAL/INDUSTRIAL USERS AND FOR OPERATION BY PERSONS TRAINED AND EXPERIENCED IN THE USE AND MAINTENANCE OF WELDING EQUIPMENT AND NOT FOR CONSUMERS OR CONSUMER USE. MK PRODUCTS WARRANTIES DO NOT EXTEND TO, AND NO RE-SELLER IS AUTHORIZED TO EXTEND MK PRODUCTS' WARRANTIES TO ANY CONSUMER.

USE OF OTHER THAN *GENUINE* MK PRODUCTS' CONSUMABLES, PARTS, AND ACCESSORIES MAY INVALIDATE YOUR PRODUCT WARRANTY.

Warranty on the XR Python Welding Gun is recognized and administered by the original equipment manufacturer, hence forth known as MK Products, Inc.



16882 Armstrong Ave.  
Irvine, CA 92606  
Tel (949)863-1234  
Fax (949)474-1428  
[www.mkproducts.com](http://www.mkproducts.com)

DATE: February 1, 2003



# Owner's Record

Please complete and retain with your personal records.

Model Name	Serial/Style Number
Purchase Date	(Date which equipment was delivered to original customer.)
Distributor	
Address	
City	
State	Zip



## For Service

**Call 1-800-4-A-Miller or see our website at [www.MillerWelds.com](http://www.MillerWelds.com) to locate a DISTRIBUTOR or SERVICE AGENCY near you.**

Always provide Model Name and Serial/Style Number.

Contact your Distributor for:	Welding Supplies and Consumables Options and Accessories Personal Safety Equipment Service and Repair Replacement Parts Training (Schools, Videos, Books) Technical Manuals (Servicing Information and Parts) Circuit Diagrams Welding Process Handbooks
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Contact the Delivering Carrier to:	File a claim for loss or damage during shipment.  For assistance in filing or settling claims, contact your distributor and/or equipment manufacturer's Transportation Department.
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